

1 What is claimed is:

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3 1. A system for communicating a first formatted data stream and
4 a second formatted data stream through a dual spectrum signal
5 over a communication bandwidth, the system comprising,

6 a first code formatter for formatting a first spreading
7 code into a first formatted code,

8 a first spreader for spectrum spreading the first formatted
9 data stream by the first formatted code into a first spread
10 spectrum signal,

11 a second code formatter for formatting a second spreading
12 code into a second formatted code,

13 a second spreader for spectrum spreading the second
14 formatted data stream by the second formatted code into a
15 second spread spectrum signal, and

16 a modulator for combining and communicating the first
17 spread spectrum signal and the second spread spectrum signal
18 into the dual spectrum signal, the first spread spectrum signal
19 having a first spectrum over the communication bandwidth and
20 the second spread spectrum signal having a second spectrum over
21 the communication bandwidth, wherein,

22 the first code formatter is an NRZ code formatter, and

23 the second code formatter is a staggered Manchester code
24 formatter.

1 2. The system of claim 1 wherein,

2 the first spectrum is a nonsplit spectrum with a peak within
3 the communication bandwidth, and

4 the second spectrum is a split spectrum with a null within
5 the communication bandwidth.

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7 3. The system of claim 1 wherein the system is a code division
8 multiple access system.

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10 4. The system of claim 1 having a first receiver for spread
11 spectrum despread the first spread spectrum signal and the
12 second spread spectrum signal, the first receiver comprising,
13 a first replica code formatter for formatting a first
14 replica spreading code into a first replica formatted code, the
15 first replica spreading code being a replica of the first
16 spreading code, and

17 a first despreader for spectrum despread the first
18 spread spectrum signal by the first replica formatted code into
19 a first despread signal.

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1 5. The system of claim 1 having a second receiver for spread
2 spectrum desreading the second spread spectrum signal and the
3 second spread spectrum signal, the second receiver comprising,
4 a second replica code formatter for formatting a second
5 replica spreading code into a second replica formatted code,
6 the second replica spreading code being a replica of the second
7 spreading code, and
8 a second despreader for spectrum desreading the second
9 spread spectrum signal into a second despread signal.

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1 6. The system of claim 1 further having a first receiver and a
2 second receiver,
3 the first receiver comprising,
4 a first replica code formatter for formatting a first
5 replica spreading code into a first replica formatted code, the
6 first replica spreading code being a replica of the first
7 spreading code, and
8 a first despreader for spectrum despreading the first
9 spread spectrum signal into a first despread signal, and
10 a detector for detecting the first data stream for the
11 first despread signal, and
12 the second receiver comprising,
13 a second replica code formatter for formatting a second
14 replica spreading code into a second replica formatted code,
15 the second replica spreading code being a replica of the second
16 spreading code, and
17 a second despreader for spectrum despreading the second
18 spread spectrum signal by the second replica formatted code
19 into a second despread signal.

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1 7. The system of claim 1 further comprising,
2 a first replica code formatter for formatting a first
3 replica spreading code into a first replica formatted code, the
4 first replica spreading code being a replica of the first
5 spreading code,
6 a first despreader for spectrum despreading the first
7 spread spectrum signal into a first despread signal,
8 a second replica code formatter for formatting a second
9 replica spreading code into a second replica formatted code,
10 the second replica spreading code being a replica of the second
11 spreading code, and
12 a second despreader for spectrum despreading the second
13 spread spectrum signal into a second despread signal,
14 wherein,
15 the first code formatter is an NRZ formatter,
16 the first spread spectrum signal is a nonsplit spectrum
17 signal,
18 the first spectrum is a nonsplit spectrum having a center
19 peak,
20 the second code formatter is a staggered Manchester
21 formatter,
22 the second spread spectrum signal is a split spectrum
23 signal,
24 the second spectrum is a split spectrum having a center
25 null,
26 the first replica code formatter is an NRZ formatter, and
27 the second replica code formatter is a staggered Manchester
28 code formatter.

1 8. The system of claim 1 further comprising,
2 a first replica code formatter for formatting a first
3 replica spreading code into a first replica formatted code, the
4 first replica spreading code being a replica of the first
5 spreading code,
6 a first despreader for spectrum despreading the first
7 spread spectrum signal into a first despread signal,
8 a second replica code formatter for formatting a second
9 replica spreading code into a second replica formatted code,
10 the second replica spreading code being a replica of the second
11 spreading code, and
12 a second despreader for spectrum despreading the second
13 spread spectrum signal into a second despread signal,
14 wherein,
15 the first code formatter is in a transmitter,
16 the first spread spectrum signal is a nonsplit spectrum
17 signal,
18 the second code formatter is in the transmitter,
19 the second spread spectrum signal is a split spectrum
20 signal,
21 the first replica code formatter is in a first receiver,
22 the second replica code formatter is in a second receiver,
23 the first formatted data stream is communicated between the
24 transmitter and the first receiver, and
25 the second formatted data stream is communicated between
26 the transmitter and the second receiver.

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1 9. The system of claim 1 further comprising,
2 a first replica code formatter for formatting a first
3 replica spreading code into a first replica formatted code, the
4 first replica spreading code being a replica of the first
5 spreading code,
6 a first despreader for spectrum despreading the first
7 spread spectrum signal into a first despread signal,
8 a second replica code formatter for formatting a second
9 replica spreading code into a second replica formatted code,
10 the second replica spreading code being a replica of the second
11 spreading code, and
12 a second despreader for spectrum despreading the second
13 spread spectrum signal into a second despread signal,
14 wherein,
15 the first code formatter is an NRZ formatter,
16 the first spread spectrum signal is a nonsplit spectrum
17 signal,
18 the second code formatter is a staggered Manchester
19 formatter,
20 the second spread spectrum signal is a split spectrum
21 signal,
22 the first replica code formatter is an NRZ formatter,
23 the second replica code formatter is a staggered Manchester
24 code formatter,
25 the first code formatter and the second code formatter are
26 disposed in a transmitter.
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1 10. The system of claim 1 wherein,

2 the staggered Manchester format is a staggered Biphase-L
3 format.

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5 11. The system of claim 1 wherein,

6 the staggered Manchester format is a staggered binary offset
7 carrier format.

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